

Our Reference: 2071

Application No. 10/081,401

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) ~~A memory device for multi-level recording device~~ comprising:
a substrate; and
a memory material supported by the substrate, the memory material including a
phase change alloy defined by: $\text{In}_x(\text{Sb}_n\text{Te}_{100-n})_{100-x}$ wherein x is 3-30, n is 63-82.
2. (Original) The device of claim 1, wherein x is 5-15.
3. (Original) The device of claim 1, wherein x is 7-15.
4. (Original) The device of claim 1, wherein x is 9-13.
5. (Original) The device of claim 1, wherein the phase change alloy is $\text{In}_9(\text{Sb}_{72}\text{Te}_{28})_{91}$.
6. (Original) The device of claim 1, wherein the phase change alloy is $\text{In}_9(\text{Sb}_{72}\text{Te}_{28})_{91}$.
7. (Original) The device of claim 1, wherein the phase change alloy is $\text{In}_9(\text{Sb}_{72}\text{Te}_{28})_{91}$.
8. (Original) The device of claim 1, wherein the phase change alloy has a peak with a
substantial FWHM at around $2\theta=24-26$ degrees of X-ray diffraction using $\text{CuK}\alpha$.
9. (Currently Amended) ~~An optical memory device for~~ A multi-level recording device
comprising:

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a substrate; and

a phase change alloy supported on the substrate, the phase change alloy lacking silver and having a eutetic base alloy composition with at least one element for providing a sigma-to-dynamic range of less than 2%.

10. (Original) The device of Claim 9, wherein the phase change alloy has a peak with a substantial FWHM at around $2\theta = 24-26$ degrees of X-ray diffraction using CuK α .

11. (Original) The device of Claim 9, wherein the alloy has at least two phases during data recording, one phase being a major phase and the other phase being a minor phase.

12. (Original) The device of Claim 10, wherein the device is an optical memory disk.

13. (Original) The device of Claim 10, wherein the device alloy has 7 or more detectable levels.

14. (Original) The device of Claim 10, wherein the device alloy has at least 11 detectable levels.

15. (Original) The device of Claim 11, wherein the memory material including a phase change alloy defined by: $M_x(Sb_nTe_{100-n})_{100-x}$ wherein x is 3-30, n is 63-82, where M is at least one main group metal.

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16. (Original) The device of claim 15, wherein x is 5-15.

17. (Original) The device of claim 15, wherein x is 7-15.

18. (Original) The device of claim 15, wherein x is 9-13.

19. (Original) The device of Claim 11, wherein the FWHM at around 2 theta=24-26 degrees of X-ray diffraction using CuK α is greater than that of AgIn(SbTe) at a corresponding concentration for M.
